

## APPENDIX 14 HIGH RISK FACTORS FOR HEARING LOSS IN NEONATES AND INFANTS

### HIGH RISK FACTORS FOR HEARING LOSS IN NEONATES AND INFANTS

In 1990 the Joint Committee on Infant Hearing\*, in response to recent research and new legislation (P.L. 99.457), expanded and clarified the risk criteria for hearing loss they proposed in 1982. Because moderate to severe sensorineural hearing loss can be confirmed in 2.5% to 5.0% of neonates manifesting any of the previously published risk criteria, audiological testing of this group by six months of age is warranted. The Program for Children with Special Health Care Needs (CSHCN) recommends that neonates or infants who have one or more of the risk factors should be referred to a qualified audiologist for hearing screening.

#### A. Risk Criteria: Neonates (birth - 28 days)

The risk factors that identify those neonates who are at-risk for sensorineural hearing impairment include the following:

1. \*\*Family history of congenital or delayed onset childhood sensorineural impairment.
2. Congenital infection known or suspected to be associated with sensorineural hearing impairment such as toxoplasmosis, syphilis, rubella, cytomegalovirus and herpes.
3. Craniofacial anomalies including morphologic abnormalities of the pinna and ear canal, absent philtrum, low hairline, et-cetera.
4. Birth weight less than 1500 grams (-3.3 lbs.).
5. Hyperbilirubinemia at a level exceeding indication for exchange transfusion.
6. Ototoxic medications including but not limited to the aminoglycosides used for more than 5 days (e.g., gentamicin, tobramycin, kanamycin, streptomycin) and loop diuretics used in combination with aminoglycosides.
7. Bacterial meningitis.
8. Severe depression at birth, which may include infants with Apgar scores of 0-3 at 5 minutes or those who fail to initiate spontaneous respiration by 10 minutes or those with hypotonia persisting to 2 hours of age.
9. Prolonged mechanical ventilation for a duration equal to or greater than 10 days (e.g., persistent pulmonary hypertension).
10. Stigmata or other findings associated with a syndrome known to include sensorineural hearing loss (e.g., Waardenburg or Usher's Syndrome).

#### B. Risk Criteria: Infants (29 days - 2 years)

The factors that identify those infants who are at-risk for sensorineural hearing impairment include the following:

1. Parent/caregiver concern regarding hearing, speech, language, and/or developmental delay.
2. Bacterial meningitis.
3. Neonatal risk factors that may be associated with progressive sensorineural hearing loss (e.g., cytomegalovirus, prolonged mechanical ventilation and inherited disorders).
4. Head trauma especially with either longitudinal or transverse fracture of the temporal bone.
5. Stigmata or other findings associated with syndromes known to include sensorineural hearing loss (e.g., Waardenburg or Usher's Syndrome).
6. Ototoxic medications including but not limited to the aminoglycosides used for more than 5 days (e.g., gentamicin, tobramycin, kanamycin, streptomycin) and loop diuretics used in combination with aminoglycosides).
7. Children with neurodegenerative disorders such as neurofibromatosis, myoclonic epilepsy, Werdnig-Hoffman disease, Tay-Sach's disease, infantile Gaucher's disease, Nieman-Pick disease, any metachromatic leukodystrophy, or any infantile demyelinating neuropathy.
8. Childhood infectious diseases known to be associated with the sensorineural hearing loss (e.g., mumps, measles).

\*The 1990 Joint Committee was represented by the following: American Speech-Language-Hearing Association; American Academy of Otolaryngology-Head and Neck Surgery; American Academy of Pediatrics; Council on Education of the Deaf; Directors of Speech and Hearing Programs in State Health and Welfare Agencies.

\*\*This criteria pertains ONLY to relatives of the child who had a permanent hearing loss which began in the first five years of life, and required the use of a hearing aid and/or special education.